

**REMARKS**

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, the independent claims have been clarified to recite that the light-diffusing medium (LDM) comprises an ***optically transparent bonding material***, and a dispersion of ***solid optically transparent light-diffusing particles*** having a refractive index different from the bonding material. Claim 4 has therefore been cancelled as redundant.

Claims 22-24 directed toward patentably distinct species have been retained in the application as it is understood that such claims will be allowed with the allowance of the generic claims from which they depend.

Claims 25-30 directed to a patentably distinct non-elected method have been cancelled. However, the cancellation of such claims has been effected without prejudice to the applicants' rights under 35 USC §121.<sup>1</sup>

Claims 1-3 and 5-24 therefore remain pending herein.

A title more commensurate with the pending claims has been proposed.

**I. Response to Claim Objections**

The amendment to claim 18 is believed to address the Examiner's objection advanced in paragraph 2 of the Official Action.

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<sup>1</sup> In a telephone conference with Supervisory Examiner Font on October 12, 2005, the undersigned was informed that the Examiner's inclusion of independent method claim 25 in the claims of Group I was incorrect and that the non-elected claims of Group II were properly constituted by claims 25-30. Thus, claims 25-30 directed to a patentably distinct invention non-elected for prosecution herein have been canceled.

## **II. Response to 35 USC §112 Claim Rejection**

Applicants respectfully request reconsideration and withdrawal of the Examiner's rejection advanced against claim 7. Specifically, the Examiner asserts that claim 7 is statutorily indefinite since it "does not contain a unit wherein the value can be definitely compared." Applicants respectfully submit, however, that a light diffusion profile can be ascertained by those skilled in this art without undue experimentation. The light diffusion profile of the present invention as defined by claim 7 is therefore a magnitude greater – more specifically, at least 1.25 times – as compared to a comparable optical fiber having no light-diffusing particles affixed to a terminal end thereof. Stated another way, the light diffusion profile (which can be easily and reproducibly obtained by techniques well known to those in this art and discussed in the originally filed specification) of one embodiment of the present invention is 1.25 times the light diffusion profile of a structurally identical optical fiber having no light-diffusing particles affixed thereto.

Withdrawal of the rejection advanced against claim 7 under 35 USC §112 is therefore in order.

## **III. Response to Art-Based Rejections**

Prior claims 1-6 and 21 attracted a rejection under 35 USC §102(b) as allegedly being anticipated by Sinofsky et al (USP 6,071,302). Claims 7-10 and 19-20 have been asserted to be "obvious" and hence unpatentable under 35 USC §103(a) over Sinofsky et al alone. Claims 11-16 on the one hand and claims 17-18 on the other hand attracted rejections under 35 USC §103(a) as allegedly being unpatentable over Sinofsky et al in view of Bruce (USP 5,534,000) or Intintoli et al (USP 6,893,432), respectively. As will become more clear from the discussion which follows, none of the applied references of record are appropriate to reject the amended pending claims herein.

Applicants note that the present invention relies on the incorporation of transparent particles dispersed in a transparent bonding material so as to control light diffusion. Thus, the transparent particles of the present invention must be optically transparent and must have a refractive index which is different from that of the transparent bonding material. In such a manner, therefore, the present invention is capable of controllably altering the diffusion pattern. As will become evident from the discussion below, unlike the prior art, the present invention does not seek to physically scatter the light using opaque particles.

The Examiner principally relies upon the cited Sinofsky et al patent for its teaching of scattering particles embedded within an epoxy mass at the terminal end of an optical fiber. However, the only scattering particles disclosed in Sinofsky et al are oxides of titanium, silicone and aluminum (see column 5, lines 51-53 and Table 1 at column 6, lines 1-10). Oxides of titanium are however optically **opaque** – not transparent.<sup>2</sup> Similarly, oxides of aluminum (i.e., alumina ( $Al_2O_3$ )) and silicone (i.e., silica ( $SiO_2$ )) are likewise optically opaque.<sup>3</sup> Thus, Sinofsky et al teach that one skilled in the art would need to incorporate **opaque**—not **optically transparent** – particles in order to obtain light diffusion properties. As such, Sinofsky et al cannot anticipate or render obvious the presently claimed invention.

The secondary references fail to cure the deficiencies of Sinofsky et al. In this regard, the applied Bruce patent also discloses the use of alumina as an optical diffuser which, as noted above is an optically opaque material. Similarly, the applied Intintoli et al reference teach at column 9, lines 14-16 that titanium dioxide, aluminum oxide or silicon dioxide particles may be suitable materials for the "dispersant 32". Of course, as

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<sup>2</sup> See, <http://www.ozonelite.com/otheruses.html> ("The most important constituent of paint is titanium dioxide, an opaque substance....")

<sup>3</sup> For alumina, see <http://navier.engr.colostate.edu/whatische/ChEL05Body.html> ("[A]lumina ( $Al_2O_3$ ) is usually optically opaque in its pure, ceramic form...." For silica, see <http://mineral.galleries.com/minerals/elements/silicon/silicon.htm> ("Crystals are opaque."))

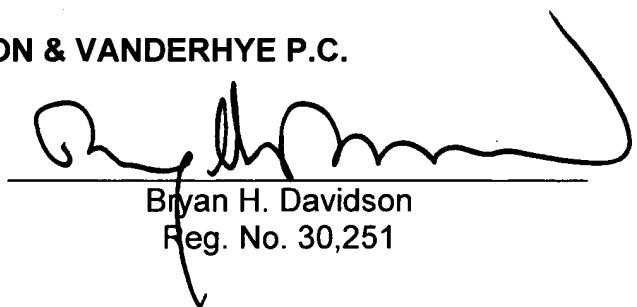
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noted previously, all such "dispersants" disclosed by Intintoli et al are optically opaque – not transparent.

Thus, the art applied by the Examiner collectively that, while optically opaque particles may have been employed in the past, there is no teaching, suggestion or motivation to employ optically transparent particles in the manner claimed herein. Withdrawal of all art-based rejections is therefore in order.

Respectfully submitted,

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